Wagner, Heindel, and Noyes, Inc.

• Consulting Hydrogeologists
• Engineers
• Environmental Scientists

P.O. Box 1629 Burlington, Vermont 05402-1629
802-658-0820
FAX: 802-860-1014

March 24, 1994

Mr. Jason Feingold
Sites Management Section
Agency of Natural Resources
103 South Main Street
Waterbury, VT 05671

RE: Charlotte Berry Farm
Charlotte, Vermont

Dear Jason:

Enclosed please find our Supplemental Investigation Report on the Charlotte Berry Farm located in Charlotte, Vermont.

If you have any questions on this information, please do not hesitate to contact our office.

Sincerely,

M Christopher

Michele Christopher, REM #5773
Environmental Engineer

MC/ral

Enclosures

cc: Ms. Holly Callery

[L-FEINGOLD/MC 1-1-94]

CHARLOTTE BERRY FARM
Route 7
Charlotte, Vermont

SUPPLEMENTAL INVESTIGATION

Prepared for:
Holly Callery

March 23, 1994

WAGNER, HEINDEL, AND NOYES, INC. WH&N

Consulting Hydrogeologists, Engineers, and Environmental Scientists

PROJECT # 93904

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W N

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Route 7
Charlotte, Vermont

SUPPLEMENTAL INVESTIGATION

Prepared for:
Holly Callery

Prepared by:

M Christopher

Michele Christopher, REM #5773
Environmental Engineer

Reviewed and Approved by:

Jeffrey E. Noyes
Chief Hydrogeologist

March 23, 1994

CHARLOTTE BERRY FARM
Route 7
Charlotte, Vermont

SUPPLEMENTAL INVESTIGATION

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CHARLOTTE BERRY FARM
Route 7
Charlotte, Vermont

SUPPLEMENTAL INVESTIGATION

1.0 INTRODUCTION

On November 22, 1993, a 275-gallon gasoline underground storage tank (UST) and a 1,000-gallon diesel fuel UST were removed from the equipment shed area of the Charlotte Berry Farm in Charlotte, Vermont. The 275-gallon gasoline tank was removed without incident and appeared to be in good physical condition without pits or holes. Following the removal of the 1,000-gallon diesel fuel tank, two small holes were noted at the bottom of the tank, and free product was observed. Both tanks were resting on a bed of gravel which was situated above very dense Vergennes clays. These small holes were approximately ½-inch x ½-inch and ½-inch x 1-inch in area.

Following the removal of the leaking underground storage tank (LUST), the tank owner retained WH&N to inform the state of the release and to oversee the removal of the contaminated soils. An underground storage tank site investigation report was submitted to the Sites Management Section (SMS) on December 9, 1993.

This additional work has been performed in response to the SMS January 10, 1994 letter requesting the following additional components:

1. Develop a plan to treat and monitor stockpiled soils.

2. Perform a sensitive receptor survey.

3. Determine the need for long-term treatment and/or monitoring plan.

4. Submit a summary report which details the additional investigation results and further recommendations.

All of these components are addressed in this report.

The site is situated between two small, unnamed streams. The U.S. Geological Survey topographic map indicates that the site is on a drainage divide. Based on the site topography, and assuming that the groundwater direction follows this topography, it is likely that groundwater flows towards an intermittent stream to the west. This stream ultimately empties into Lake Champlain.

The Soil Conservation Service (SCS) Chittenden County soil map for the area describes the soils as Vergennes clay, Stockbridge, and Nellis stony loams, or Covington silty clay. Based on field observations, it is likely that the soils underlying the tanks are Vergennes clays.

All excavated soils were evaluated using a Photovac MicroTIP photoionization detector (PID) with a 10.6 eV UV lamp probe. All contaminated soils (5 ppm or greater) were excavated and polyencapsulated onsite. The location of the soil storage area is indicated on the site map in the Attachment. The contaminated soils were placed on 6-mil polyethylene sheet covering an area of approximately 80-feet x 25-feet. This was built on a slight slope which dips towards Lake Champlain. A contaminant recovery vessel was situated at the base of the polyencapsulated area to capture any residual product which drains from the soil pile. The contaminated soil was mixed with manure in a 3-to-1 ratio. Based on previous experience, we expect the contaminated soil to be ready for thin-spreading by August 1994.

As in outlined in Activity #1 of our approved scope of services (January 31, 1994), WH&N will begin monitoring the polyencapsulated stockpiled soils in June. Further evaluation will be determined once this monitoring program is initiated.

2.0 SENSITIVE RECEPTOR SURVEY

The potential receptor survey was performed as per Activity #2 of our January 31, 1994 Scope of Services. This survey incorporates information obtained from an inspection of the area within a 1,000-foot radius of the tank site, and includes a domestic well sensitive receptor survey. The site inspection was performed on February 21, 1994. The ambient air was tested for volatile organic compounds (VOCs), using a Photovac MicroTIP photoionization detector (PID) with a 10.6 eV UV lamp probe. This instrument was calibrated using a benzene equivalent gas. All ambient air readings on the subject property were recorded at 0.0 parts per million (ppm).

The physical reconnaissance was hampered by approximately 1.5 feet of snow which blanketed the entire property. The land use for the area has been as a berry farm, with intermittent areas which are out of production. The residence for the Charlotte Berry Farm manager is situated 100 feet west of the former tank site. A physical reconnaissance and PID survey was completed within the basement and in the surrounding area. All PID readings registered at 0.0 ppm.

A small, unnamed, intermittent stream was observed situated approximately 250 feet west of the former tank site. PID readings were noted at 0.0 ppm. This stream flows south/southwest and ultimately discharges into Lake Champlain.

A domestic well survey was performed within a 1,000-foot radius of the removed tank. Well logs were obtained from the Water Supply Section of the Agency of Natural Resources. Wells within one mile of the tank are listed in the table below. Only one domestic well was noted within the 1,000-foot radius. This is registered to Ms. Holly Callery and is likely the well for the farm manager's residence.

Well No.	Owner	Year Drilled	Total Depth
579	Dan White	1990	160
580	Dan Palmer	1990	122
587	Craig Palmer	1979	222
536	Jeff Bradley (GMDB)	1989	200
540	Bradley (GMD Builders)	1989	210
417	Essex Construction	1987	343
380	Essex Construction	1986	303
239	Holly Callery	1981	750

The polyencapsulated contaminated soil site is situated approximately 700 feet from the former tank site. The topography of the ground slopes gently from the former tank site towards the polyencapsulated soil to the west. A site map is presented in the Attachment.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The drinking water well for the manager's residence is within 100 feet of the former tank site. The total depth is estimated to be 750 feet, with a static water level at 30 feet below

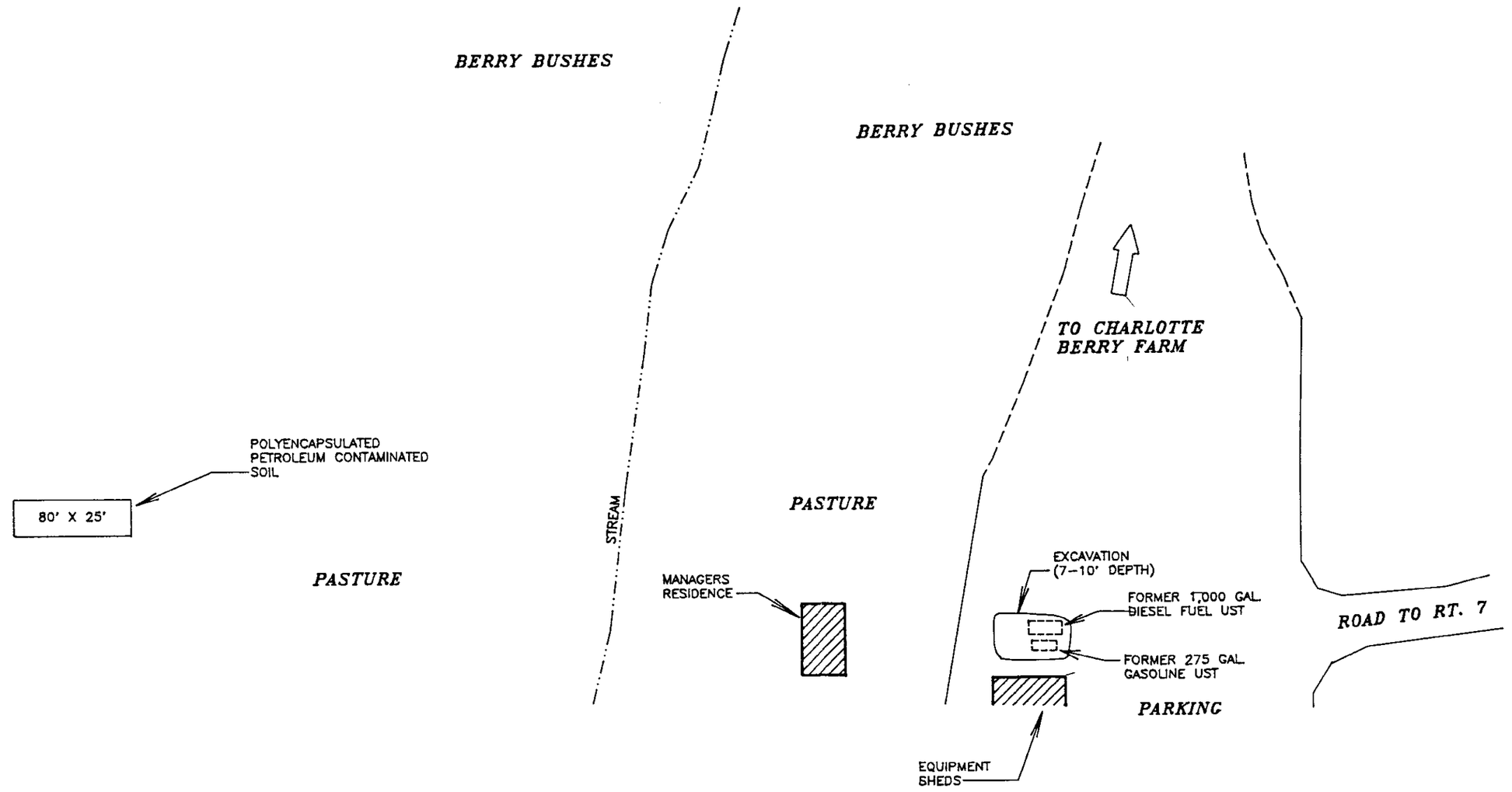
the ground surface (bgs). The soils in this area are characterized as very dense Vergennes clays with very low permeabilities. WH&N believes that all the contaminated soil has been excavated and is being treated onsite. It is therefore unlikely that any residual contamination from this former leaking tank site will impact the onsite well. However, due to the very low threshold of benzene acceptability in the water standards, we recommend the supply be tested via EPA 8020.

Other than the on-site domestic water supply, the visual and PID surveys yielded no evidence to indicate that the former tank site would impact any other receptors. No long-term treatment or monitoring is recommended.

The polyencapsulated soils are scheduled to be monitored from June 1994 to August 1994. Further information pertaining to this monitor program will be forwarded when available.

Other than testing the farm's potable water supply, WH&N does not recommend any further action.

[RPT-BERRY/MC 1-1-94]



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CONSULTING SCIENTISTS AND ENGINEERS
• Hydrogeology • Ecology •
• Environmental Engineering •
BURLINGTON, VERMONT

CHARLOTTE BERRY FARM

CHARLOTTE, VERMONT

FORMER UST SITE PLAN

DATE: 3/23/94 | SCALE: 1" ≅ 80' | DRN: MRL | APPD: MC

C:\CALLERY\BERRY.DWG